RECORDS OF THYSANOPTERA—*continued.*

Species.	Host Plant.	Locality.	Date.
Rhipidothrips aureus ...	Eucalyptus calophylla ...	Mundaring	9–5–32
	Eucalyptus spp.	Baker's Hill ...	7–3–32
		Gosnells	12–3–32
	Blossoms of native trees ...	Toodyay	11–4–32
	Eucalyptus spp. and Acacia spp.	Mundaring	30–5–32
Liothrips atratus (Moulton)	Sweepings in bush	Mundaring	25–2–31
Haplothrips victoriensis (Bag.)	Garden flowers	Perth	14–4–32
	Garden flowers	Belmont	7–3–32
	Garden flowers	Queen's Park ...	6–4–32
	Dahlias	Perth	5–4–32
	Roses	Bridgetown ...	29–2–32
	Eucalyptus erythrocoris ...	Perth	10–3–32
	Eucalyptus sp.	Northam	11–9–32
		Baker's Hill ...	7–3–32
Haplothrips gowdeyi ...	Globe amaranthus	Perth	7–3–32
Haplothrips varius... ...	Globe amaranthus	Perth	7–3–32
Haplothrips melanocerus ...	Garden flowers	Perth	27–2–32
Phaulothrips fuscus (Moulton)	Eucalyptus sp.	Bridgetown ...	15–11–27

Specimens of all species collected were mounted, also duplicates were preserved in spirits. As far as it was possible the thrips were named. The collection was then forwarded to Mr. Dudley Moulton, of Redwood City, California, a specialist on the taxonomy of the Thysanoptera. Mr. Moulton kindly undertook the work of identification and the checking of those already named.

Amongst the species sent, Mr. Moulton has recorded one new genus and six new species. The new species are named and described in the following appendix.

APPENDIX.

NEW SPECIES OF THRIPS FROM SOUTH-WESTERN AUSTRALIA.

By DUDLEY MOULTON.

Lamprothrips, Moulton, New Genus.

Genotype: *S. maculosus*, Moulton.

Closely related to and with most of the characters of *Aeolothrips* Hal.

Head wider than long, flattened in front, broadly rounded at the eyes, cheeks almost straight. Prothorax equals head in length; pterothorax much enlarged with broadly rounded sides. Eyes well developed, extended on ventral side; ocelli present. Maxillary palpus with three and labial palpus with four segments. Antenna with nine segments, three longest and with a distinct swelling on outer side near tip, four to nine rather closely joined and diminishing in length gradually; three and four each with a light-coloured sense area near tip. Prothorax without conspicuous spines. Each fore tarsus with a hook-shaped claw. Wings as in *Aeolothrips* but without darkened bands, without fringe along anterior margins. Terminal abdominal segments with long spines. Ovipositor upturned.

Lamprothrips maculosus, Moulton, n.sp.

Female holotype: Head blackish-brown, abdomen dark brown shading to blackish-brown at tip, middle and hind legs except basal portions of tarsi also blackish-brown; thorax, forelegs and first abdominal segments lighter

but mottled or shaded with dark brown, the lighter portions greyish-yellow; abdomen with red pigment. Antenna greyish-brown mottled with dark brown on sides of segment two and median linear portion of segment three. Forewing white at base and tip and with a faint grey-brown shading in the middle especially along veins.

The light-coloured markings on head, thorax and legs are distinctive, and those on the prothorax are almost alike on the three specimens before me. There is a clear yellow, peanut-shaped area on either side near the posterior margin of the prothorax, an enlarged irregular shaped area near middle of posterior half and several oval-shaped spots on either side. These spots are also conspicuous on all femora.

Total body length 2.27 mm.; head length 0.18 mm., width 0.24 mm.; prothorax length 0.176 mm., width 0.28 mm.; pterothorax length 0.44 mm., width 0.45 mm.; forewing length 0.98 mm., width near middle 0.13 mm.; spines on ninth and tenth abdominal segments 147 to 160 microns. Antennal segments: length (width) I, 33 (43); II, 50 (31); III, 126 (near middle, 23, at swollen part 33); IV, 76 (23); V, 46 (23); VI, 36 (23); VII, 26; VIII, IX, 13 each; total length, 430 microns.

Type material: Female holotype and two female paratypes taken on *Eucalyptus rudis*, December 20, 1928, by B. A. O'Connor. Moulton No. 5084.

Type locality: Perth, Western Australia.

Rhipidothrips aureus, Moulton, n. sp.

Female holotype: Head and thorax golden yellow, abdominal segments one to eight lighter, nine and ten shading to grayish brown; antennal segments one, two and basal half of three grayish yellow, one darkened at extreme tip, two darker than one and basal half of three, distal half of three and four to nine blackish brown; legs yellow; wings clear with ring vein darkened with gray.

Total body length 2.03 mm.; head length 0.19 mm., width 0·22 mm.; prothorax length 0.205 mm., width 0.30 mm.; pterothorax width 0.42 mm.; antennal segments length (width): I, 33 (36); II, 56 (30); III, 133 (26); IV, 106 (23); V, 70 (20); VI, 53 (20); VII, 43 (20); VIII, 10; IX, 13; total 543 microns.

Type material: female holotype and three female paratypes taken in blossoms of a native tree, April 11, 1932, Cahill. Types in author's collection.

Type locality: Northam, Western Australia.

This species is close to R. *kellyanus* Bagnall but is at once distinguished by its bright golden yellow colour and the clear wings; *kellyanus* is grayish yellow and has a smokey brown stripe along posterior margin of fore wing between second longitudinal vein and posterior part of ring vein and also includes the scale. One paratype of *aureus* is darkened with grayish brown across abdominal segments one to eight.

Anaphothrips (Anaphothrips) *varii* Moulton.

Female holotype: mottled brown and yellow, prevailing colour brown; antennae blackish brown, segments two and three lighter in median distal portions; legs with coxae brown, femora and tibiae mostly yellow, shaded brown on outer margins, tarsi yellow; wings brownish, veins darker.

Total body length 1.6 mm.; head length 0.147 mm., width 0.18 mm.; prothorax length 0.16 mm., width 0.23 mm.; spines on ninth and tenth abdominal segments 66 microns. Antennal segments: length (width) I, 23; II, 36 (26); III, 43 (20); IV, 43 (19); V, 40 (18); VI, 46 (16); VII, 11; VIII, 10; IX, 13; total 286 microns.

Head and thorax without prominent spines, setae minute; back of head especially in darkened area transversely reticulate; ocelli present; style of antenna with three distinct segments; setae on fore wings exceedingly minute and hardly visible, arranged as follows: costa 20, fore vein 6 basal and 5 scattered distal, hind vein 8 at irregular intervals. Comb on eighth abdominal segment complete. Spines on ninth and tenth abdominal segments of about equal length.

Type material: female holotype and two female paratypes taken on clover October 13, 1930, H. Womersly. Moulton No. 5115. Types in author's collection.

Type locality: Guildford, Western Australia.

A. *varii* may at once be distinguished by its mottled brown and yellow colour and the extremely minute bristles on wings.

Anaphothrips newmani, Moulton, n.sp.

Female holotype: Uniformly straw yellow including all legs; wings also uniformly shaded except for darkened veins, tip of mouth cone black, spines on wings and distal portion of abdomen brown, crescents of ocelli orange; first antennal segment whitish, second abruptly darker like head, three to five whitish-yellow at bases and shading distally from brown to dark brown, six to nine dark brown.

Total body length 1.17 mm.; head length 0.09 mm., width 0.146 mm.; prothorax length 0.10 mm., width 0.17 mm.; spines on ninth and tenth abdominal segments 50-53 microns. Antennal segments: length (width) II, 26 (21); III, 33 (16); IV, 26 (16); V, 26 (16); VI, 26 (16); VII, 8; VIII, 7; IX, 10; total 186 microns.

Head and thorax without prominent spines or setae, ocelli present but small, style of antenna distinctly with three segments, comb on eighth abdominal segment complete, spines on tip of abdomen of about even length; setae on forewings short, stout and conspicuous, as follows: costa 22, fore vein 4, 3 and 4 scattered to tip, hind vein 9 or 10 more or less evenly placed.

Male allotype like female but somewhat smaller, wings fully developed, with fully developed comb on posterior margin of eighth abdominal segment; ninth segment with a prominent stout spine at each posterior angle and a prominent more slender pair of about the same length near middle of segment; with a pair of short stout spurs in line between this median pair and a second pair of smaller spurs immediately posterior to and lateral of the larger pair.

Type material: Female holotype and three female paratypes; male allotype, taken on leaves of acacia, March 15, 1932, by L. J. Newman. Moulton No. 5114. Types in author's collection.

Type locality: Claremont, Western Australia.

Anaphothrips (*Anaphothrips*) *newmani* may be separated from the closely related *obscurus* Muller by its shorter and broader head and the distinctly darkened wing spines.

Phaulothrips fuscus, Moulton, s.nov.

Female holotype: blackish brown, fore tarsi brownish yellow, antennae blackish brown except third segments which are mostly yellow but darkened at the tip. Fore wing white at base and tip, median half brownish.

Total body length 3.5 mm.; head length 0.73 mm., width at base 0.49 mm.; prothorax, length in the middle 0.19 mm. and 0.29 mm. at the sides; tube length 0.58 mm., width at base 0.17 mm. Antennal segments: length (width) II, 117 (60); III, 308 (43); IV, 191 (50); V, 161 (50); VI, 102 (50); VII, 73 (46); VIII, 73; total 1,102 microns. Length of spines: anteocellar and postoculats 140 microns, on anterior margin of prothorax 76, on anterior angles 66, midlaterals 116, on posterior angles outer 183-200 and inner 160 microns; on ninth abdominal segment 660 and at tip of tube 220 microns; basal wing spines 50, 86 and 153 microns respectively.

Prominent spines have blunt to dilated tips; each fore tarsus is armed with a prominent curved tooth; each fore wing has about twenty-seven double fringe hairs; fore femora are enlarged.

Male allotype coloured and shaped as in female except for the larger fore femora and stronger tarsal teeth.

Type material: female holotype, male allotype and three female, paratypes taken in blossoms of Eucalyptus sp., November 15, 1927, by L. J. Newman. Moulton No. 5117. Types in author's collection.

Type locality: Bridgetown, Western Australia.

P. fuscus may be separated from *vuilleti* Hood by its blunt to dilated tipped spines, these are pointed in *vuilleti*.

Liothrips atratus, Moulton, n.sp.

Female holotype: Colour black except distal portion of fore tibiae and tarsi which are yellowish-brown and first segments of middle and hind tarsi which are brown; third antennal segment brownish-yellow in basal half, grey-brown in distal half, fourth and fifth segments brownish-yellow at bases, otherwise the antennae are black; forewings uniformly greyish-brown, hindwings almost clear.

Total body length 2.1 mm.; head length 0.28 mm., width 0.26 mm.; prothorax length 0.22 mm., width 0.44 mm.; tube length 0.22 mm., width at base 0.088 mm. Antennal segments: length (width) II, 53 (33); III, 80 (30); IV, 76 (36); V, 73 (33); VI, 63 (30); VII, 63 (26); VIII, 33; total 460 microns. Length of spines: postoculars 60 microns, near anterior angles of prothorax 46, on posterior angles 50, on ninth abdominal segment 123, at tip of tube 216 microns, basal wing spines 40, 40 and 50 microns respectively.

Prominent head and body spines have blunt to dilated tips; antennal segments seven and eight are closely united; each fore tarsus is armed with a small tooth; forewings are without double fringe hairs. The prothorax is relatively wide for this genus, fore femora are slightly enlarged but the pointed mouth cone, single sense cone on third antennal segment and other characters are all true to the genus. This species is immediately separated from others by the absence of double fringe hairs on the forewings.

Type material: female holotype taken by sweeping on January 25, 1931, L. J. Newman. Moulton No. 5118. Type in author's collection.

Type locality: Mundaring, Western Australia.

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